

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P310792

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CP187-W2A-U-5000K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P310792
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-45HE-UNV-L82765-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5000K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3951.0 lumens
Efficiency: N/A
Efficacy: 114.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

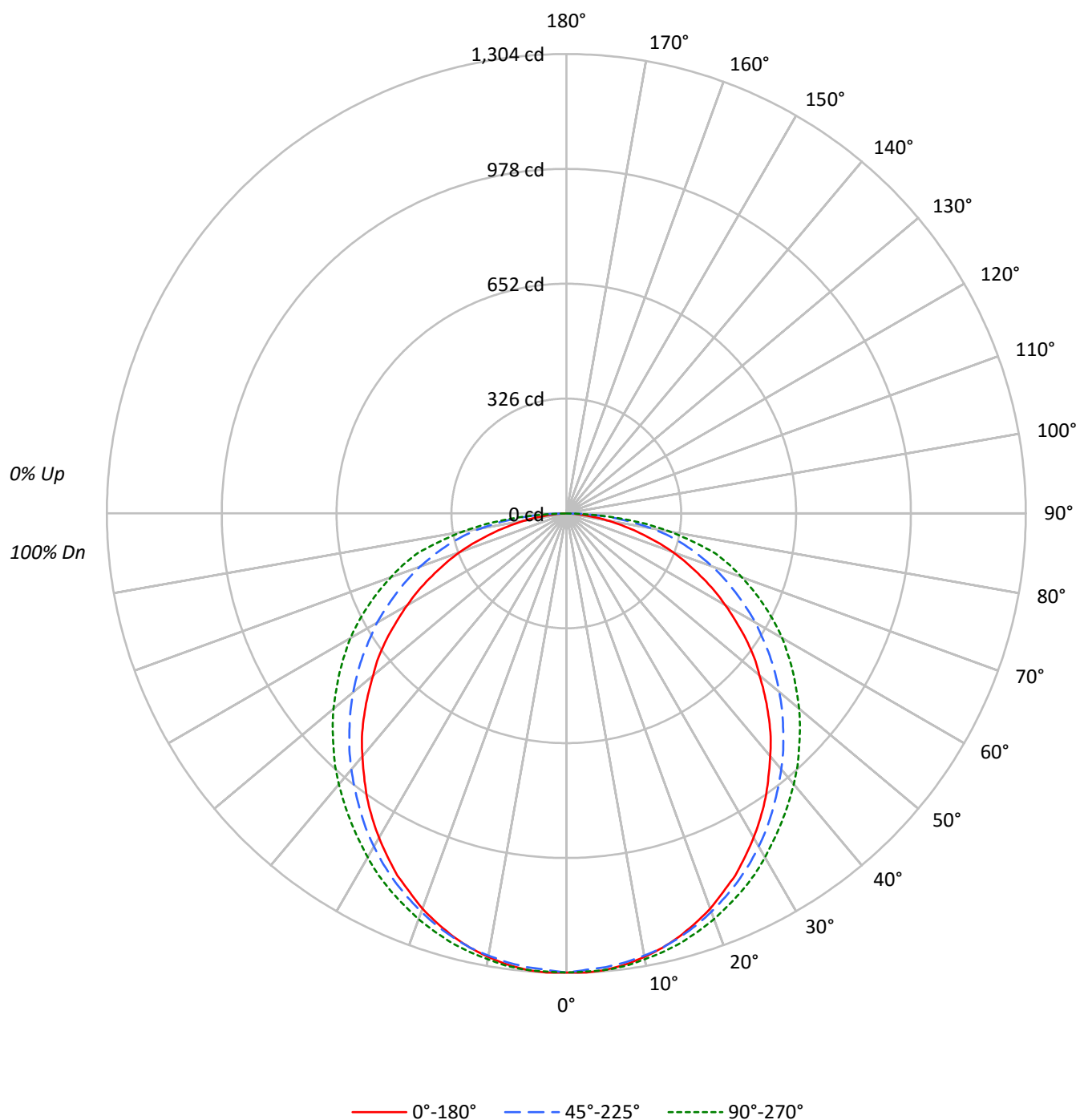
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		0
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1753	1753	1753
5°	1756	1746	1756
10°	1746	1741	1755
15°	1731	1735	1757
20°	1710	1723	1755
25°	1683	1711	1753
30°	1652	1697	1751
35°	1619	1679	1753
40°	1582	1667	1764
45°	1544	1656	1779
50°	1498	1652	1806
55°	1461	1654	1842
60°	1404	1668	1905
65°	1340	1686	1974
70°	1269	1738	2083
75°	1131	1813	2276
80°	965	1920	2326
85°	689	1902	2226



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.3	3.1
10°-20°	352.6	8.9
20°-30°	532.6	13.5
30°-40°	641.9	16.2
40°-50°	673.9	17.1
50°-60°	630.4	16.0
60°-70°	520.6	13.2
70°-80°	354.8	9.0
80°-90°	121.0	3.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1008.5	25.5
0°-40°	1650.4	41.8
0°-60°	2954.6	74.8
0°-90°	3951.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3951.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1303	1303	1303	1303	1303	
5°	1300	1299	1292	1300	1300	123
15°	1243	1244	1245	1258	1261	350
25°	1134	1139	1152	1174	1181	522
35°	986	996	1022	1057	1067	616
45°	811	828	870	918	935	626
55°	623	648	705	763	785	556
65°	421	456	530	596	620	417
75°	218	267	349	414	438	232
85°	45	88	123	139	144	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1303.0	1303.0	1303.0	1303.0	1303.0
2.5°	1304.3	1303.0	1296.5	1303.0	1301.7
5°	1300.4	1299.1	1292.5	1300.4	1300.4
7.5°	1291.2	1291.2	1284.7	1293.8	1295.1
10°	1278.1	1278.1	1274.2	1284.7	1284.7
12.5°	1262.4	1262.4	1262.4	1272.9	1274.2
15°	1242.7	1244.0	1245.3	1258.4	1261.1
17.5°	1219.1	1221.7	1225.7	1241.4	1244.0
20°	1194.2	1196.8	1203.4	1221.7	1225.7
22.5°	1162.7	1169.3	1178.5	1199.4	1203.4
25°	1133.9	1139.1	1152.3	1174.5	1181.1
27.5°	1098.5	1106.4	1123.4	1147.0	1156.2
30°	1063.1	1071.0	1092.0	1119.5	1127.3
32.5°	1025.1	1036.9	1059.2	1088.0	1097.2
35°	985.8	996.3	1022.5	1056.6	1067.0
37.5°	942.5	956.9	985.8	1022.5	1035.6
40°	900.6	916.3	949.1	988.4	1004.1
42.5°	858.6	874.4	911.1	955.6	971.4
45°	811.4	828.5	870.4	917.6	934.7
47.5°	764.2	785.2	831.1	880.9	899.3
50°	715.7	739.3	789.1	841.6	862.6
52.5°	672.5	694.8	747.2	803.6	823.2
55°	622.7	647.6	705.2	762.9	785.2
57.5°	571.5	599.1	660.7	723.6	745.9
60°	521.7	551.9	620.0	683.0	707.9
62.5°	473.2	503.4	574.2	639.7	664.6
65°	420.8	456.2	529.6	596.4	620.0
67.5°	371.0	409.0	486.3	551.9	575.5
70°	322.5	359.2	441.8	506.0	529.6
72.5°	270.0	312.0	394.6	461.4	486.3
75°	217.6	267.4	348.7	414.2	437.8
77.5°	169.1	220.2	301.5	355.2	367.0
80°	124.5	177.0	247.8	285.8	300.2
82.5°	80.0	132.4	188.8	216.3	228.1
85°	44.6	87.8	123.2	139.0	144.2
87.5°	18.4	38.0	49.8	56.4	56.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)